

CLAIMS

WHAT IS CLAIMED IS:

1. A medical article, comprising:
 - (a) a medical substrate; and
 - 5 (b) a coating deposited on the substrate, the coating comprising a first polymer and a second polymer, wherein the first polymer includes a biologically degradable AB block copolymer, and the second polymer includes a biologically degradable polymer that is capable, at equilibrium and at room temperature, of absorbing less than about 5 mass % water.
- 10 2. The medical article of Claim 1, wherein the medical article is a stent, graft, or a stent-graft.
3. The medical article of Claim 1, wherein the AB block-copolymer is capable of absorbing, at equilibrium and at room temperature, about 5 mass % or more water.
- 15 4. The medical article of Claim 1, wherein the second polymer does not include or is substantially free from AB polymeric blocks.
5. The medical article of Claim 1, wherein the AB block-copolymer comprises a biocompatible polymeric moiety and a structural polymeric moiety.
6. The medical article of Claim 5, wherein the biocompatible
20 polymeric moiety is selected from a group consisting of a poly(alkylene glycol),

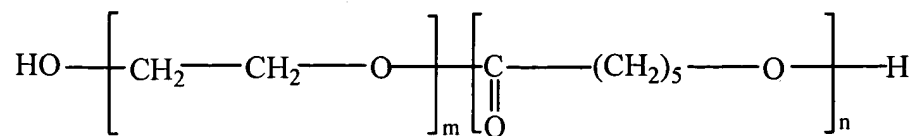
poly(2-hydroxyethyl methacrylate), poly(3-hydroxypropyl methacrylamide),
hydroxylated poly(vinyl pyrrolidone), sulfonated dextran, sulfonated
polystyrene, fibrin, fibrinogen, cellulose, starch, collagen, hyaluronic acid,
heparin, a graft copolymer of poly(L-lysine)-graft-co-poly(ethylene glycol), and
5 copolymers thereof.

7. The medical article of Claim 6, wherein the poly(alkylene glycol)
is selected from a group consisting of poly(ethylene glycol), poly(propylene
glycol), poly(tetramethylene glycol), and poly(ethylene oxide-co-propylene
oxide).

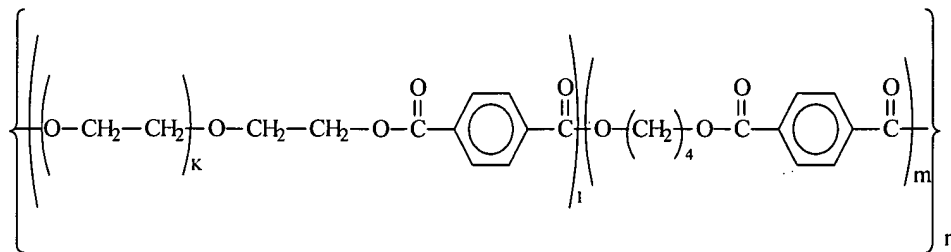
10 8. The medical article of Claim 5, wherein the structural polymeric
moiety is selected from a group consisting of poly(D,L-lactide),
poly(caprolactone), poly(caprolactone-co-D,L-lactide), poly(butylene
terephthalate), poly(ester amide), poly(aspirin), poly(L-lactide), poly(glycolide),
poly(L-lactide-co-glycolide), poly(D,L-lactide-co-glycolide), poly(3-
15 hydroxybutyrate), poly(4-hydroxybutyrate), poly(hydroxyvalerate), poly(3-
hydroxybutyrate-co-valerate), poly(4-hydroxybutyrate-co-valerate), and
polydioxanone.

9. The medical article of Claim 1, wherein the AB block-copolymer
is selected from poly(ethylene-glycol)-block-co-poly(caprolactone) and
20 poly(ethylene-glycol)-block-co-poly(butylene terephthalate).

10. The medical article of Claim 1, wherein the AB block-copolymer
is:



or

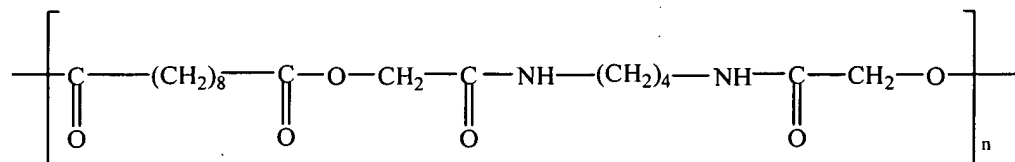


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wherein m, n, I, K, and r are positive integers.

11. The medical article of Claim 1, wherein the second polymer is selected from a group consisting of poly(L-lactide), poly(D,L-lactide), poly(glycolide), poly(L-lactide-co-glycolide), poly(D,L-lactide-co-glycolide),
- 10 poly(caprolactone), poly(L-lactide-co-caprolactone), poly(D,L-lactide-co-caprolactone), polyhydroxyalkanoates, poly(3-hydroxybutyrate), poly(4-hydroxybutyrate), poly(hydroxyvalerate), poly(3-hydroxybutyrate-co-valerate), poly(4-hydroxybutyrate-co-valerate), poly(ester amides), poly(anhydrides), poly(carbonates), poly(trimethylene carbonate-co-glycolide), poly(trimethylene
- 15 carbonate-co-L-lactide), poly(trimethylene carbonate-co-D,L-lactide), poly(dioxanone), poly(phosphazenes), poly(orthoesters), poly(tyrosine-co-carbonates), polyalkylene oxalates, poly(glycerol-co-sebacic acid esters), cyanoacrylates, poly(amino acids), poly(lysine), poly(glutamic acid) and combinations thereof.

12. The medical article of Claim 1, wherein the second polymer has the formula:



5 wherein n is a positive integer.

13. The medical article of Claim 1, additionally including a therapeutic substance.

14. A medical article, comprising a biologically degradable AB block copolymer and a biologically degradable polymer that is capable, at equilibrium
10 and at room temperature, of absorbing less than about 5 mass % water.

15. The article of Claim 14, wherein the medical article is a stent, a graft or a stent graft.

16. The article of Claim 14, wherein the AB block-copolymer is capable of absorbing, at equilibrium at room temperature, about 5 mass % or
15 more water.

17. The article of Claim 14, wherein the second polymer does not include or is substantially free from AB polymeric blocks.

18. The article of Claim 14, wherein the AB block-copolymer comprises a biocompatible polymeric moiety and a structural polymeric moiety.

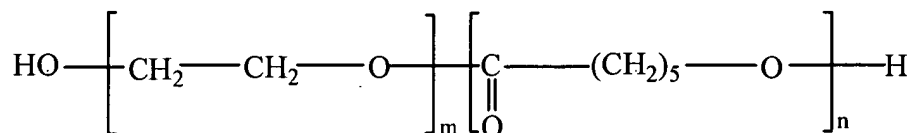
19. The article of Claim 18, wherein the biocompatible polymeric moiety is selected from a group consisting of a poly(alkylene glycol), poly(2-hydroxyethyl methacrylate), poly(3-hydroxypropyl methacrylamide), hydroxylated poly(vinyl pyrrolidone), sulfonated dextran, sulfonated polystyrene, fibrin, fibrinogen, cellulose, starch, collagen, hyaluronic acid, heparin, a graft copolymer of poly(L-lysine)-graft-co-poly(ethylene glycol), and copolymers thereof.

20. The article of Claim 19, wherein the poly(alkylene glycol) is selected from a group consisting of poly(ethylene glycol), poly(propylene glycol), poly(tetramethylene glycol), and poly(ethylene oxide-co-propylene oxide).

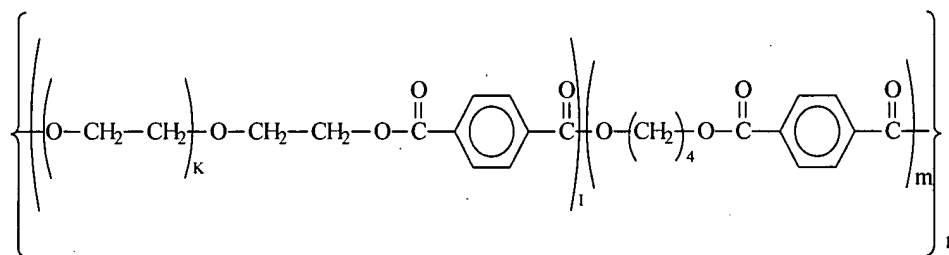
21. The article of Claim 18, wherein the structural polymeric moiety is selected from a group consisting of poly(D,L-lactide), poly(caprolactone), poly(caprolactone-co-D,L-lactide), poly(butylene terephthalate), poly(ester amide), poly(aspirin), poly(L-lactide), poly(glycolide), poly(L-lactide-co-glycolide), poly(D,L-lactide-co-glycolide), poly(3-hydroxybutyrate), poly(4-hydroxybutyrate), poly(hydroxyvalerate), poly(3-hydroxybutyrate-co-valerate), poly(4-hydroxybutyrate-co-valerate), and polydioxanone.

22. The article of Claim 14, wherein the AB block-copolymer is selected from poly(ethylene-glycol)-block-co-poly(caprolactone) and poly(ethylene-glycol)-block-co-poly(butylene terephthalate).

23. The article of Claim 14, wherein the AB block-copolymer is



or

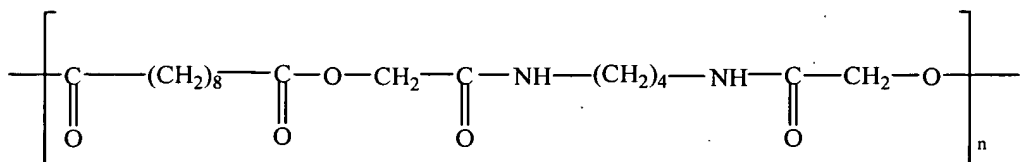


wherein m, n, I, K, and r are positive integers.

24. The article of Claim 14, wherein the biologically degradable polymer that is capable, at equilibrium and at room temperature, of absorbing less than about 5 mass % water is selected from a group consisting of poly(L-lactide), poly(D,L-lactide), poly(glycolide), poly(L-lactide-co-glycolide), poly(D,L-lactide-co-glycolide), poly(caprolactone), poly(L-lactide-co-caprolactone), poly(D,L-lactide-co-caprolactone), polyhydroxyalkanoates, poly(3-hydroxybutyrate), poly(4-hydroxybutyrate), poly(hydroxyvalerate), poly(3-hydroxybutyrate-co-valerate), poly(4-hydroxybutyrate-co-valerate),

- poly(ester amides), poly(anhydrides), poly(carbonates), poly(trimethylene carbonate-co-glycolide), poly(trimethylene carbonate-co-L-lactide), poly(trimethylene carbonate-co-D,L-lactide), poly(dioxanone), poly(phosphazenes), poly(orthoesters), poly(tyrosine-co-carbonates),
- 5 polyalkylene oxalates, poly(glycerol-co-sebacic acid esters), cyanoacrylates, poly(amino acids), poly(lysine), poly(glutamic acid) and combinations thereof.

25. The article of Claim 14, wherein the biologically degradable polymer that is capable, at equilibrium and at room temperature, of absorbing less than about 5 mass % water is:



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wherein n is a positive integer.

26. The article of Claim 14, additionally including a therapeutic agent mixed, bonded, conjugated, linked or blended with the block copolymer
- 15 and/or the polymer.

27. A method of treating a disorder in a human being, comprising:

implanting in the human being a medical article as defined in claim 14, wherein the disorder is selected from the group consisting of atherosclerosis, thrombosis, restenosis, hemorrhage, vascular dissection or perforation, vascular

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aneurysm, vulnerable plaque, chronic total occlusion, claudication, anastomotic proliferation for vein and artificial grafts, bile duct obstruction, ureter obstruction, tumor obstruction, and combinations thereof.